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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,449	07/07/2003	F. Buellfeld	2668	7523

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EXAMINER

HERRING, LISA L

ART UNIT PAPER NUMBER

1731

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/614,449

Applicant(s)

BUELLESFELD ET AL.

Examiner

Lisa Herring

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 5,6,11,12,13, and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7 July 2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, apparatus claims 1-14, in the reply filed on July 29, 2005 is acknowledged.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aulich et al. (4,133,664).
3. Regarding Claim 1, Aulich discloses a double crucible for a glass drawing process comprising:
 - a) a heatable outer crucible (1a) (Fig. 4)
 - b) an inner crucible (2a) surrounded by the outer crucible (1a), said inner crucible (2a) being heated separately from the outer crucible (1) (Fig. 4 and Col. 6 lines 11-12);
and
 - c) the outer crucible and inner crucible have a nozzle.

Aulich fails to disclose in the embodiment of Fig. 4 that the outlet nozzle of the inner crucible projects or extends beyond the outlet nozzle of the outer crucible.

However, Aulich discloses in the embodiment of Fig. 1 that a similar double crucible with an outlet nozzle of the inner crucible projecting/extending beyond the outlet nozzle

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of the crucible in order to mate with closure member 5. The embodiment in Fig. 4 also utilizes a closure member and therefore, could easily be modified in order to accommodate an alternative closure member, such as the closure member disclosed in Fig. 1. Accordingly, it would have been obvious to one skilled in the art at the time the invention was made to modify the inner crucible outlet nozzle of Fig. 4 to extend beyond the outlet nozzle of the outlet crucible, since it has been taught by Aulich, that an alternative closure member, such as the closure member 5 in the embodiment of Fig. 1 could also be utilized in a double crucible process for glass drawing.

Regarding claim 2, Aulich meets the limitations of the claim by disclosing the inner and outer crucibles may consist of a material selected from a group consisting of platinum, iridium, and platinum-rhodium alloy (Col. 4, lines 25-30).

Regarding claim 7, Aulich meets the limitations of the claim by disclosing metal crucibles, such as platinum, iridium, and platinum-rhodium alloys, which are all electrically conductive and are all at least a partially electrically conductive material.

4. Claims 3, 4, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aulich et al. (4,133,664) as applied to claim 1 above, and further in view of Tick (5,106,400) and Oldfield (3,929,440).

5. Regarding claims 3 and 4, Aulich discloses the crucibles can also be formed of different materials, which are both heat resistant and resistant to chemical reactions or attack, but fails to disclose gold or gold alloy or a platinum/gold alloy with about 5% by weight gold content. However, Tick teaches platinum and gold are materials which do not adversely react with liquid glass (Col. 4 lines 18-21) and further Oldfield discloses a

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specific embodiment of a glass melting crucible formed of an alloy of platinum with a minor proportion by weight for example 5% to 10% of gold (Col. 2 lines 11-15).

Accordingly, it would have been obvious to one skilled in the art at the time the invention was made to have the surfaces of the inner or outer crucible contacting the glass melt made of gold or gold alloy or a platinum/gold alloy with about 5% by weight gold content, since it has been taught by Tick that platinum and gold materials do not adversely react with liquid glass and disclosed by Oldfield that during manufacturing of a high quality glasses, such as a laser glass, utilizes a glass melting crucible formed of an alloy of platinum with a minor proportion by weight for example 5% to 10% of gold.

Regarding claims 7 and 9, as discussed previously, Aulich discloses the crucibles can also be formed of different materials which are both heat resistant and resistant to chemical reactions or attack, but fails to disclose a partially electrically conductive material and the outer crucible is a quartz glass crucible with a metal layer thereon. However, Tick teaches a vessel made of platinum, gold, or fused silica does not adversely react with liquid glass (Col. 4 lines 18-21) and Oldfield discloses a melting crucible may have a lining formed of a platinum alloy (Col. 2 lines 11-15). Therefore, it can be deduced from the teachings of Tick and Oldfield, if desired the vessel material taught by Tick, such as a crucible made of fused silica could be lined with platinum, as taught by Oldfield, to produce a crucible having only a partially electrically conductive material. Aulich, Oldfield, and Tick are analogous art, since they are from the same field of endeavor, such as disclosing processes that include molten glass. Accordingly, it would have been obvious to one skilled in the art at the time the invention was made

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to utilize alternate crucible materials, such as a fused silica crucible and a lined crucible with a metal, as taught by Oldfield and Tick, since it has been suggested by Aulich that other suitable materials may be used for crucible material as long as the materials are both heat resistant and resistant to chemical reactions or attack.

6. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aulich et al. (4,133,664) as applied to claims 1 and 7 above, and further in view of Boen et al. (4,660,212) and Meerman (EP0109131). As discussed previously, Aulich discloses the crucibles can also be formed of different materials, which are both heat resistant and resistant to chemical reactions or attack, but fails to disclose the outer crucible is a cooled skull crucible with a palisade of metallic tubing. However, it is known in the art that an alternative crucible, such as a skull crucible is used for the preparation of ultra pure materials, such as silica or high-purity glasses destined for the batchwise manufacture of optical fiber, as evidenced by Boen (Fig. 1 and Col. 1 lines 58-61) and Meerman (pg. 1 lines 13-16). Further the cold crucible disclosed by Boen in Fig. 1 appears to be a slotted metal crucible, since there are slots formed by the tubing. Accordingly, it would have been obvious to one skilled in the art at the time the invention was made wherein either crucible in the process of Aulich is a cooled skull crucible with a palisade of metallic tubing or a slotted metal crucible, since it is a well known in the art that a skull/cold crucible is an alternative crucible used in melting glasses destined for the manufacturing of optical fiber, as taught by Boen and Meerman.

Allowable Subject Matter

7. Claims 5, 6, 11, 12, 13, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 5 and 6, all of the prior art references fail to disclose or suggest a combination of an outer crucible comprising an electrically insulating material and the inner crucible comprises an electrically conductive material heatable by an electromagnetic field.

Regarding claims 11-14, all of the prior art references fail to disclose or suggest a combination of an outer crucible having a closed jacket made from an electrically conductive material, to which an MF/HF coil is associated for heating and said inner crucible is a double-walled crucible that is connectable to a current source so that a current may be passed through said double-walled crucible for heating.

Conclusion

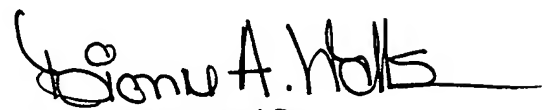
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa Herring whose telephone number is 571-272-1094. The examiner can normally be reached on Mon-Fri. 7:30 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

L. Herring


DIONNE A. WALLS
PRIMARY EXAMINER